

Parallels Virtuozzo Containers 4.0 for Linux

Release Notes

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This document describes the new features of this release and important changes since the previous one.

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1. ABOUT THIS RELEASE

Parallels Virtuozzo Containers 4.0 for Linux has a host of major new features and improvements in comparison with version 3.0, which makes it a true next-generation virtualization solution suitable for large-scope enterprise deployments.

In this version, the product has changed its name from Virtuozzo for Linux to Parallels Virtuozzo Containers for Linux. As part of the product renaming, some of its components have also been renamed. These are the following Virtuozzo Containers components:

- Virtual Environments (VEs) have been renamed to Containers;
 - Virtuozzo Management Console (VZMC) has been renamed to Parallels Management Console;
 - Virtuozzo Control Center (VZCC) has been renamed to Parallels Infrastructure Manager;
 - Virtuozzo Power Panels (VZPP) has been renamed to Parallels Power Panel;
 - the Virtuozzo Agent (VZAgent) software has been renamed to the Parallels Agent software.
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2. NEW FEATURES AND IMPROVEMENTS

- The Virtuozzo Containers 4.0 kernel is based on the Red Hat Enterprise Linux 5.0 kernel. This release provides a higher level of stability and security and increases the range of compatible hardware and software.
- Parallels Virtuozzo Containers 4.0 supports the RHCS (Red Hat Cluster Suite) clustering technology allowing you to provide greater availability for your applications and services, including the Virtuozzo Containers software itself.
- The Virtuozzo Containers 4.0 installation process has been greatly simplified and improved since the previous release.
- The new version of Virtuozzo File System - VZFS v2 allows to cut by times the disk space occupied by individual Containers, which results in a greatly reduced

creation/backing up/restoring/migration time. The new VZFS version also allows to use third-party backup tools (like tar) for backing up Containers.

- Now you can use any convenient Container name for the management purposes. Additionally, some notes or a description may easily be attached to a Container. This makes Virtuozzo Containers management much easier and more user-friendly.
- Virtuozzo Containers 4.0 supports the SNMP (Simple Network Management Protocol) protocol allowing you to monitor network and system resources on the Hardware Node and inside its Containers by means of standard SNMP applications.
- Burstable CPU limits have been introduced to make it possible for individual Containers to use 100% of the CPU time for a predetermined time span.
- Container backups are now completely cross-platform, which means, among other things, that you can store Container backups on the servers running the Windows operating system.
- Any Container can be frozen and put to a suspended state. It can later be restored to the running state by the Container owner.
- Not only stopped Containers can now be cloned, but also running ones.
- A well-balanced rights assignment and user authentication and authorization strategy has been implemented in Virtuozzo Containers 4.0. This strategy enables you to grant the rights to users (including the users registered in LDAP-compliant directory databases) for performing certain operations in the Hardware Node and Container contexts.
- Container Ethernet (packet switching based) network adapters can now be managed by means of Parallels Management Console and Parallels Infrastructure Manager.
- Virtuozzo Containers 4.0 has a new licensing scheme implemented. Now you need only one Virtuozzo Server license to be installed on the Hardware Node to start managing it by means of Parallels Infrastructure Manager, Parallels Power Panel, and Parallels Management Console.
- The Parallels Infrastructure Manager and Parallels Power Panel interfaces have been completely redesigned to introduce a more intuitive approach to managing Hardware Nodes and their Containers.
- All groups of Virtuozzo objects (Containers, templates, configuration samples, backups, etc.) can now be centrally managed by Parallels Infrastructure Manager for all Hardware Nodes united into a Virtuozzo Group.
- There is a possibility to upgrade standard templates to EZ ones for a more flexible way of template management.
- A central proxy server can now be set for managing EZ templates to reduce the Internet bandwidth consumption, improve the system fault-tolerance, and expedite Container software updates.
- Installed EZ templates can now be copied from one Hardware Node to another.

3. BUGS FIXED

Many bugs from the previous release have been fixed in Parallels Virtuozzo Containers 4.0 for Linux. Here is a small sample of them:

- The system resources usage by a Container is reported incorrectly if the *SLMMODE* parameter in the Container configuration file is set to 'slm'.
- Parallels Power Panel does not work if the kernel name on the Hardware Node has been changed.
- An infinite loop sets in when logging in from Parallels Power Panel to Plesk.
- Parallels Power Panel shows an incorrect status for services running inside SUSE-based Containers.
- The *vzcheckovr* and *vzmemcheck* utilities provide an incorrect output if the SLM mode is enabled for at least one Container on the Hardware Node.
- The Container backup configuration parameters can be managed from several places in Virtuozzo Containers systems.
- The file manager in Parallels Infrastructure Manager reduces the size of the uploaded files after their editing.

All these bugs together with many others have been fixed in Virtuozzo Containers 4.0 for Linux.

4. COMPATIBILITY ISSUES

- To provide the compatibility with the Virtuozzo Agent 3.x API, which is needed to allow performing certain operations between Hardware Nodes running the Virtuozzo Containers 4.0 software and Hardware Nodes having Virtuozzo 3.0 installed (e.g. migrating Containers between such Nodes), you should perform the following operations:
 - * Assign a public IP address to the Service Container and set the password of the *vzagent0* user inside this Container using the *vzctl set* command:

```
# vzctl set 1 --ipdel all --ipadd public_IP_address --userpasswd vzagent0:*****
```
 - * Restart the Parallels Agent software on the Hardware Node:

```
# vzagent_ctl restart
```
- Requesting a new Virtuozzo Server license via Parallels Management Console, Parallels Infrastructure Manager, or the *vzlicreq* utility is not supported any more in Virtuozzo Containers 4.0. Now you can use one of the following ways to obtain a new Virtuozzo Server license:
 - fill up a special registration form on the Parallels web site (available at <http://www.parallels.com/download/pvc46>) and get a free evaluation license;
 - contact a Parallels sales representative.

- If you use Virtuozzo Management Console 3.0 to set the default Backup Node for a Hardware Node running Virtuozzo Containers 4.0, this setting will not be taken into account by Virtuozzo Tools 4.0.
- To restore a Container residing on a Hardware Node running Virtuozzo Containers 4.0 from its backup stored on a 3.0 Hardware Node in Parallels Management Console, you should invoke the **Restore Container** wizard for the Node where the Container backup is located, i.e. for the 3.0 Node.

5. KNOWN ISSUES AND RESTRICTIONS

A list of known issues for Parallels Virtuozzo Containers 4.0 for Linux is given below.

- Fedora Core 1, 2, 3, 4, 5, 6, Red Hat Enterprise Linux 1, 2, 3, CentOS 1, 2, 3, SUSE Linux Enterprise Server 9 and below are not supported as the Host OSs (though they are supported by way of OS templates).
However, if your Hardware Node is already running Virtuozzo Containers 3.0 or 3.0 SP1, the following upgrades to Virtuozzo Containers 4.0 are possible:
 - Red Hat 9;
 - Red Hat Enterprise Linux 3;
 - Red Hat Enterprise Linux 4;
 - CentOS 3;
 - CentOS 4;
 - Fedora Core 1;
 - Fedora Core 2;
 - Fedora Core 4;
 - SUSE Linux Enterprise Server 9.
- When using the *vzpkgproxy* utility to set up the proxy server for managing EZ templates in an 'RHEL 4'-based system, make sure the system has the Apache *httpd* server, version 2.0.52-28 or higher, installed.
- All Hardware Nodes included in a Virtuozzo Group should have the system time synchronized. Otherwise, some Parallels Infrastructure Manager functions (e.g. viewing logs, viewing top resource-using Containers, managing licenses) might work incorrectly.
- You may experience problems when using the Parallels Business Automation application to manage Containers having one or more services configured with the *vzsetxinetd* utility.
- On the Parallels Agent service start (e.g. during the Hardware Node boot), a Container may be left in the transitional state. In this case you should restart the Parallels Agent service on the Node as follows:
vzagent_ctl restart
- There is a small propagation delay (up to 60 seconds) needed for the permissions included in a new role created on a Slave Node in the Virtuozzo Group to come into effect. During this time, you may not be able to make use of some role permissions to the full extent.

- Parallels Power Panel cannot be used to view OS and application package updates available to a Container and install these updates inside the Container.
- You may experience problems with viewing Container samples stored on Slave Nodes in the Virtuozzo Group by means of Parallels Infrastructure Manager. To solve the problem:
 - remove the corresponding Slave Node from the Virtuozzo Group;
 - restart the Master Node;
 - register the Slave Node in the Virtuozzo Group again.
- The process of uploading and installing large Virtuozzo templates (more than 1Gb) via Parallels Infrastructure Manager may work unstable. In this case you can manually copy these templates to your Node and install them there using the `rpm -i` command.
- The Virtuozzo Containers 4.0 kernel cannot be loaded on a Hardware Node running a SUSE-based operating system (e.g. SUSE Linux Enterprise Server 10 with Service Pack 1) and having the IPv6 module disabled.
- By default, all VLANs created on the Hardware Node by means of Parallels Infrastructure Manager, Parallels Management Console, or the `vznetcfg` utility are in the *down* state. To enable a newly created VLAN, assign a valid IP address to it and bring the VLAN to the running state using the Linux `ip` utility.
- Due to multiple considerations, you are not recommended to have more than 1000 Containers hosted on all Hardware Nodes included in a Virtuozzo Group.
- The `vzsvaddress` hostname is reserved for internal Virtuozzo Containers purposes and cannot be used as a hostname for your regular Containers.
- The `/bin/pwd` command may not work inside Containers based on the SLES Linux Enterprise Server 10 (SLES 10) EZ OS template due a bug in the SLES operating system.
- If you are deploying Virtuozzo Containers 4.0 in a VMware ESX Server environment, you should perform the following operations to make your Containers operating in the 'bridged' mode accessible from external servers:
 - Make sure that the value of the **Promiscuous Mode** field on the **Security** tab of the **vSwitch Properties** window is set to *Accept*.
 - Ensure that the ESX Server adapter always has one and the same MAC address assigned.
- You cannot create more than one virtual network adapter for a Container if you use Internet Explorer 6 or 7 to manage your Hardware Nodes and their Containers via Parallels Infrastructure Manager. To create additional network adapters for your Containers, you can:
 - log in to your Hardware Node via Parallels Infrastructure Manager using another web browser (e.g. Safari, Opera, or Firefox);
 - use Parallels Management Console;
 - use the `vzctl set` command.
- The Container backup and restore operations using Virtuozzo Management Console 3.0 and the Virtuozzo Agent 3.x API can be performed only between Hardware Nodes

running the same version of Parallels Virtuozzo Containers (either Virtuozzo 3.0 or Virtuozzo Containers 4.0).

- Virtuozzo Management Console 3.0 cannot be used for managing the Parallels Agent configuration parameters on Hardware Nodes running Virtuozzo Containers 4.0.
- Virtuozzo Management Console 3.0 does not allow you to configure the periodicity of refreshing the resources consumption information in the logs for Hardware Nodes running Virtuozzo Containers 4.0.
- Parallels Management Console 4.0 cannot be used to restore Containers residing on Hardware Nodes running the Virtuozzo 3.0 software.
- Virtuozzo Management Console 3.0 cannot be used to browse the backup contents of Containers residing on Hardware Nodes running the Virtuozzo Containers 4.0 software and to restore separate files and directories from such backups.
- Virtuozzo Management Console 3.0 does not support the zero-downtime migration of Containers between Hardware Nodes running the Virtuozzo Containers 4.0 software.